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Claims

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1. Flame-retardant system for polymers, characterized in that it comprises a phosphorus-based compound chosen from the group consisting of esters and salts of phosphoric, phosphinic and phosphonic acids impregnated on a porous solid support and at least one stabilizing compound chosen from the group of the compounds which are scavengers of acid functional group and melamine condensation products or derivatives, the ratio by weight of the stabilizing compound to the phosphorus-comprising compound being between 30% and 80%.
- 10 2. Flame-retardant system according to Claim 1, characterized in that the phosphorus-comprising compound is chosen from the group consisting of the bis[(5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphorinan-5-yl)methyl] ester of methylphosphonic acid, alone or as a mixture with the methyl and (5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphorinan-5-yl)methyl ester of methylphosphonic acid, resorcinol bis(diphenyl phosphate), bisphenol A bis(diphenyl phosphate), polyphosphate esters, diethylphophinic acid, ethylmethylphosphinic acid, methyl(n-propyl)phosphinic acid, and their mixtures, esters and salts.
- 15 3. The flame-retardant system according to Claim 1 or 2, characterized in that the stabilizing compound is chosen from the group consisting of alkali metal and alkaline earth metal carbonates, hydrotalcites and aluminosilicates.
- 20 4. Flame-retardant system according to Claim 1 or 2, characterized in that the stabilizing compound is chosen from the group consisting of melamine condensation products and their derivatives and melamine derivatives.

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5. Flame-retardant system according to Claim 4, characterized in that the melamine condensation products are chosen from the group consisting of melem, melam, melon and their mixtures and the melamine derivatives from the group consisting of melamine cyanurate, phosphate and polyphosphates.

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6. Flame-retardant system according to Claim 6, characterized in that the porous solid support is an inorganic oxide chosen from silica, alumina, silica/alumina, sodium silicoaluminate, calcium silicate, magnesium silicate, zirconia, magnesium oxide, calcium oxide, cerium oxide or titanium oxide.

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7. Flame-retardant system according to one of Claims 1 to 6, characterized in that the porous solid support is a silica.

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8. Flame-retarded polymer-based composition, characterized in that it comprises a flame-retardant system comprising a phosphorus-based compound chosen from the group consisting of esters and salts of phosphonic, phosphinic and phosphoric acids impregnated on a porous solid support and at least one stabilizing compound chosen from the group of the compounds which are scavengers of acid functional group and melamine condensation derivatives, the ratio by weight of the stabilizing compound to the phosphorus-comprising compound being between 30% and 80%.

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9. Composition according to Claim 8, characterized in that the concentration by weight of phosphorus-comprising compound, expressed as weight of phosphorus, in the composition is between 5% and 15% with respect to the total weight of the composition.

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10. Composition according to Claim 8 or 9, characterized in that the polymer is chosen from the group consisting of thermosetting polymers, thermoplastic polymers and elastomers.

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11. Composition according to Claim 10, characterized in that the thermoplastic polymers are chosen from the group consisting of polyolefins, polyamides, polyesters, polycarbonates, styrene polymers, polyurethanes, polyepoxides, and their copolymers and blends.

12. Composition according to Claim 11, characterized in that the thermoplastic polymers are chosen from the group consisting of the polyamides 6/11, 4/6, 66/6, 6/66, 11, 12, 4, 6, 6.6, 6;9, 6;19, 6.12, 6.18, 6.36; branched polyamides, and their copolymers and blends.

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13. Composition according to Claim 11, characterized in that the thermoplastic polymers are chosen from the group consisting of poly(ethylene terephthalate), poly(propylene terephthalate), poly(butylene terephthalate), poly(1,4-dimethylcyclohexane terephthalate), and their copolymers and blends.

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14. Composition according to one of Claims 8 to 13, characterized in that it comprises bulking fillers, reinforcing fillers, additives for heat or light stabilization, moulding aids or lubricants.

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15. Composition according to one of Claims 8 to 14, characterized in that the phosphorus-comprising compound is impregnated on a porous solid support.

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16. Composition according to Claim 15, characterized in that the porous solid support is an inorganic oxide chosen from silica, alumina, silica/alumina, sodium silicoaluminate, calcium silicate, magnesium silicate, zirconia, magnesium oxide, calcium oxide, cerium oxide or titanium oxide.

17. Composition according to Claim 16, characterized in that the porous solid support is a silica.